

## ABSTRACT

Provided are methods for producing and screening proliferated populations of CD34-negative progenitor cells, mucosal mast cells, connective tissue-type mast cells and basophil cells. The methods generate uniform proliferated populations of cells. The proliferated populations contain a uniform population of a size suitable for use in high throughput screening methods, for example, screening for agents that alter exocytosis. The invention includes screening the proliferated populations with at least one candidate bioactive agent, and evaluating the cells to detect a cell with an altered phenotype. The invention also includes isolating a candidate bioactive agent that causes the altered phenotype. Additionally, cells formed according to the described methods are also encompassed by the invention.